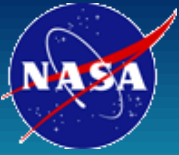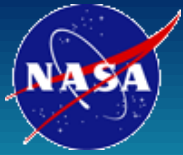# *NASA Open Source Software Release*

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Topics

- NASA Software Release Policy

- NASA Open Source Agreement (NOSA)

- Open Source Software (OSS) Development

- Future Enhancements

NASA Software Release Policy

NASA License & Release Program

- NASA recognizes the value of its software
- License commercially valuable software patents and copyrights
  - Non-Exclusive and Exclusive Licenses
  - For Royalties
    - Royalties shared with NASA innovators and Centers

NASA License & Release Program

- In some cases, many not want to (or be able to) license
  - But still want to release
- 1997 - Implemented SW release policy
  - NPD/NPR 2210, Release of NASA Software
- Purpose of Policy
  - Protect NASA and public's investment in software
  - Maintain and enhance U.S. industry's competitiveness in the U.S. & international marketplace
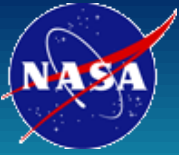
Software Release Policy

- Release software in a manner that:
  - Protects Government interests and public's investment
    - Evaluate commercial potential
    - Establish appropriate IP protection
  - Prevents violation of non-federal owner's rights
  - Complies with
    - Export control laws
    - IT security requirements
- Each Center has a Software Release Authority (SRA)

Software Release Policy

- Center Office or Project with responsibility for software must:
  - Recommending a desired release category
  - Provide the SRA with the following information
    - Known programmatic restrictions on release
    - Whether the software complies with NASA engineering and assurance requirements
    - If safety-critical software, whether it complies with NASA software safety requirements
    - Technology Readiness Level (TRL)
    - Software documentation, proposed (or available) for release
    - Known export restrictions
    - Whether software includes
      - Open Source or other third party software
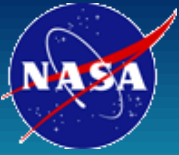   - Embedded computer databases

Software Release Policy

- Release categories:
  - Government Purpose Only Release
  - U.S. General Release
  - U.S. Academic Release
  - Public Release
  - Open Source Release

NASA Open Source Agreement (NOSA)

Open Source Release

- 2003 - NASA researchers requested that NASA consider an open source release option
- Open Source Legal Team formed
- Produced NASA Open Source Agreement (NOSA)
- Received OSI Certification
  - Only Government agency with Certified OS License
- Recently developed a Contributor License Agreements

NASA Open Source Agreement (NOSA)

- NOSA provides:
  - Rights to use, reproduce, distribute, display, and modify the original NASA software
    - without royalty
  - Recipient may create a "Larger Work"
    - combine separate software not covered by NOSA
  - Disclaimer & Waiver of Claims
  - Voluntary tracking requested

NASA Open Source Agreement (NOSA)

- NOSA requires:
  - Distribution of NASA SW under NOSA
  - Distribution of source code
  - Indemnity for liabilities that arise from recipient's use

NASA Open Source Agreement (NOSA)

- ## Why Another OS License?
  - ### Legal Sufficiency to protect the federal government
    - #### No Copyright for U.S. Government Works
      - ##### Contract v. Copyright
    - #### Apply U.S. Federal Law
    - #### Prohibit representations that may be deemed NASA endorsement
    - #### Contingent liability

- ## NOSA currently being revised/updated

OS SW Development

Open Source Software Development

- Historically, OSS Development at NASA means:
  - Incorporating external OS SW into NASA SW
  - Developing SW intended for OS distribution

Open Source Software Development

- Center Office or Project responsible for SW development must support incorporation of external OSS

- Responsible Office or Project shall:
  - Determine ramifications of incorporating external OSS during acquisition planning process
  - Consult with Center IP Counsel early in the planning process
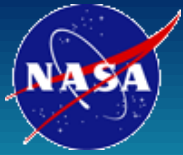   - Compliance with OS license may restrict use
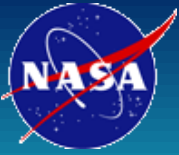
Future Enhancements

Future Enhancements

- Participation in External OS Development Projects
  - Current release policy doesn't sufficiently address NASA participation in established external OS development projects
  - Geared toward releasing software originally developed by NASA at end of NASA development lifecycle
  - Counter to active open source development philosophy which entails
    - free release as developed
    - unhindered acceptance of software from the community as submitted (after security and other relevant internal reviews)
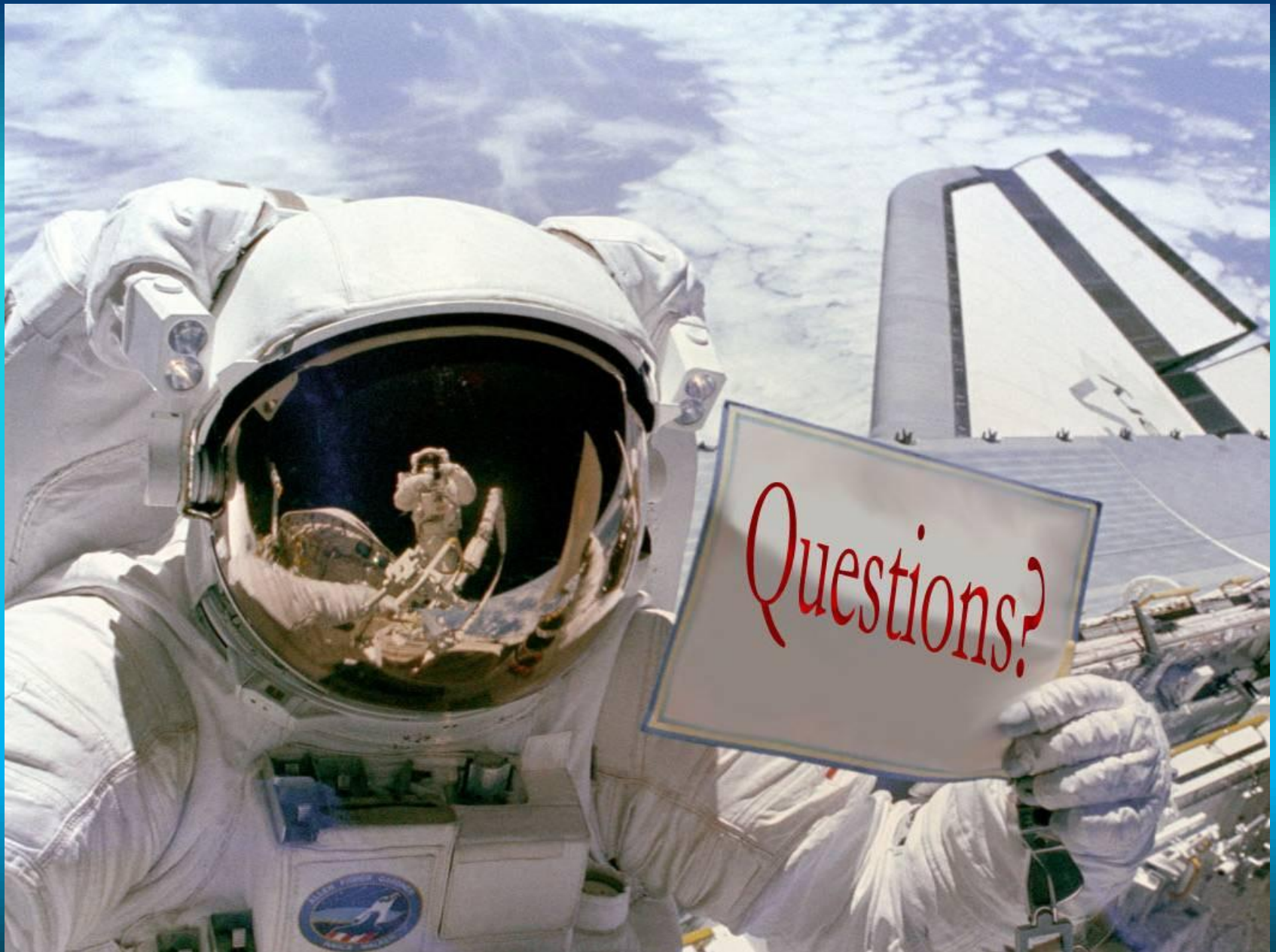
Future Enhancements

- Policy revisions being considered
- NASA participation in OS development projects may take 3 forms:
  - Pre-existing NASA software
    - Release of software not originally developed for OS release
    - Full NPR review and released under the NOSA or a NOSA compliant license
  - NASA originated open source project
    - Software development for purpose of open source release.
    - Abbreviated Open Source Project Review – export control review, IT security (if meets ITSM requirements), and IP certification
  - External open source project –
    - Participation by NASA in existing open source projects

Future Enhancements

- Participation in existing OSS development projects
  - Usually providing incremental revisions to portions of existing open source code
  - Minor code enhancements, coding patches, or bug fixes not subject to the release policy.
- Contributing such revisions to existing OS projects
  - Use of existing OS project license acceptable
  - Dedicate code to public
- If more extensive code subject to release policy
  - Use of project OS license may be approved by IP Counsel
  - Match against list of NOSA compliant licenses

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